

Quest Recovery Manager for Active Directory 10.3.2

Release Notes

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Quest® Recovery Manager for Active Directory 10.3.2

Release Notes

These release notes provide information about the Quest® Recovery Manager for Active Directory 10.3.2 release.

- New Features and Enhancements
- Resolved Issues
- Security Fixes
- Known Issues
- System Requirements
- Product Licensing
- Getting Started with Recovery Manager for Active Directory
- Globalization
- Third-Party Contributions

About Quest® Recovery Manager for Active Directory 10.3.2

Recovery Manager for Active Directory enables fast, online recovery. Comparison reports highlight what objects and attributes have been changed and deleted in Active Directory enabling efficient, focused recovery at the object or attribute level. Accurate backups and a quicker recovery enable you to reduce the time and costs associated with AD outages and reduce the impact on users throughout your organization.

Recovery Manager for Active Directory is based on patented technology.

Recovery Manager for Active Directory 10.3.2 is a release with new features and functionality. See New Features and Enhancements.

New Features and Enhancements

This section covers new features and enhancements in Quest® Recovery Manager for Active Directory 10.3.2.

Major Features

Enhanced logging of actions in RMAD Console and Forest Recovery Console

Event logging has been enhanced for actions that are performed in the RMAD console and Forest Recovery Console. Using the event viewer, actions on computer collections, forest recovery projects and much more can be audited.

Create virtual machines in Microsoft Hyper-V and VMWare ESXi

New ability to create virtual machines in Microsoft Hyper-V or VMWare ESXi and use the Restore Active Directory® to Clean OS recovery method or the Install Active Directory recovery method. To configure Microsoft Hyper-V or VMWare ESXi, new infrastructure templates are available.

Security Guide

With the 10.3.2 release, a new guide is available detailing all security information for Recovery Manager for Active Directory. This guide contains details on network communications, encryption algorithms, protection of data and much more.

Microsoft Windows Server 2025

Recovery Manager for Active Directory version 10.3.2 now supports the operating system Microsoft Windows Server 2025 for product installation, backups and recovery.

Support Virtual Machine Creation for Install from Media and Install Active Directory recovery methods

Ability to create virtual machines in Azure, Microsoft Hyper-V and VMWare ESXi when using Install AD and Install from Media recovery methods. RMAD automatically creates the virtual machine and installs the Operating System using the provided image and settings from the Forest Recovery project and metadata in the backup.

Run Phase 2 (Repromotion) of Recovery without Phase 1

Using the phased recovery feature in Recovery Manager for Active Directory, you can now run the phase 2 (repromotion) without phase 1 to recover domain controllers directly through Repromotion method, providing even more flexibility to your forest recovery project.

Promote Standalone Servers to Domain Controllers in Bulk

Using the forest recovery project, manage your Active Directory by automating the promotion of domain controllers. New feature allows you to use the recovery process to promote standalone servers to domain controllers either as an operational task in a healthy environment or as part of the AD recovery.

Enhancements

General

Enhancement	ID (old)	Azure DevOps
Recovery Manager for Active Directory 10.3.2		
Increase event viewer logging for console actions		234185
INTEGRITY CHECKS: Backups on remote storage must be checked by the backup agent		445485
Allow multi-select when using "Register Backup File" in RMAD and FR consoles		463748
Password Complexity Check on Backup Encryption Password		473827
Replication engine should enforce backup retention policy		500287
DNS forwarder zone information is lost when reading backup computer info		533935
Allow for blank backup access credentials when backup is located on DC		539083
Recovery Manager for Active Directory 10.3.1 Hotfix 3		
Use different method other than SMB for "Get information about computer from backup" during recovery	N/A	506275
Support restore from backup in no NTLM environment when backup stored on DC	N/A	506551
Recovery Manager for Active Directory 10.3.1		
Create new PowerShell cmdlet - Remove-RMADSession cmdlet	N/A	370687
Email notifications during integrity checks	N/A	395979
Allow to add a folder path for Forest Recovery projects to be included in backup	N/A	396047
Add support for US government GCC high accounts in exchange Oauth2 notifications	N/A	402135
Add collection Name/Id to PowerShell script parameters	N/A	410125
Allow to ignore missing/malfunctioning VSS writers	N/A	412323

Enhancement	ID (old)	Azure DevOps
Deprecate SCOM	N/A	416078
Diagnostic log BackupAgent64 - Allow for threshold on file size and overwrite	N/A	418052
Use remote storage credentials to access the backup storage when running integrity check for backups located on a domain controller	N/A	421517
Add an option to disable automatic checking of manual and scheduled backups	N/A	429365
Remove Support for 2012 and 2012 R2 from supported operating systems and SQL Server 2012	N/A	437548
Support using of LocalSystem account in scheduled backup	N/A	437699
Recovery Manager for Active Directory 10.3		
Salting mechanism for forest recovery project password hashes	N/A	412667
Show AD tombstone lifetime settings somewhere in a product UI	N/A	353685
Allow for password complexity	N/A	253917
BackupAgent does not respect global logging setting 'Create a new set of log files: Never' on the DC side.	N/A	381957
TLS 1.2 - Enforce in Hybrid Connect Service for communication to On Demand	N/A	384624

Resolved Issues

General Resolved Issues

Resolved Issues	ID (old)	Azure DevOps
Recovery Manager for Active Directory 10.3.2		
Performance difference between local and remote storage	N/A	370691
IFM method store temporary extracted backup on C:\ drive instead of Temp folder	N/A	488677
Log rotation interval not working as expected with logs found in root log folder	N/A	515418
Intermittent backup failures with error: Failed to connect to backup agent: Access is denied	N/A	532286

Resolved Issues	ID (old)	Azure DevOps
The DIT Database component cannot be backed up because the NTDS VSS writer is unavailable or does not work properly	N/A	539934
Recovery Manager for Active Directory 10.3.1 Hotfix 3		
Change "Full" to "AD" in "Retain recent backups"	N/A	513320
Domain recovery deletes DNS conditional forwarder to root domain	N/A	519110
RMAD Console "The server threw an exception" when accessing computer collection settings Advanced Run Scripts after moving database to a new host	N/A	523958
Recovery Manager for Active Directory 10.3.1 Hotfix 2		
DNS should cleanup all non-relevant NS records	N/A	487775
Handle null values which can be returned from Change Auditor database query	N/A	498663
Static Analysis Security Issue: Out-of-bounds read/access for ud3convert	N/A	498947
Hybrid Restore Service: Time zone settings set to UTC - (negative offset) causes ODR restore objects fail with "No results received from the agent".	N/A	504110
Hybrid Restore Service: Issue with database upgrade when upgrading RMAD product	N/A	505343
Recovery Manager for Active Directory 10.3.1 Hotfix 1		
Hybrid Restore Service: Timezone and region settings set to UTC+ causes ODR Diff restore objects to hang on "Synchronizing object changes with Azure AD"	N/A	444355
Expand-RMADBackup crashes when it's executed simultaneously for multiple backups	N/A	465177
Poor performance of backup replication in Full Mode	N/A	472789
Invalid Version String in the rmad.db3 crashes the Console	N/A	478037
Correct User Guide about permissions required for online restore	N/A	480678
Disable IPv6 loopback for AD integrated DNS server	N/A	487979
Child domain forest-wide DNS zone gets wrong IP address	N/A	487991
Recovery Manager for Active Directory 10.3.1		
FSMO roles doesn't removed from non-recovered DC	N/A	408607
OnlineRestoreAgent.msi uninstalls Backup agent on DC if Backup agent exists. Backup agent also uninstalls ORA on DC if exists before install Backup Agent.	N/A	421201
Perform integrity check after scheduled backup' option works incorrectly	N/A	430626
GPO Comparison Report error: "Uncaught Reference Error: Enumerator is not defined"	N/A	431908

Resolved Issues	ID (old)	Azure DevOps
Using Online Restore Wizard, any GPO Comparison Reports do not show the changes/differences because the information is hidden	N/A	434960
Do not store user account credential in the task for scheduled console config backup	N/A	437559
Too long replication in full mode	N/A	438621
Restore-RMADDeletedObject cmdlet throws "Invalid Password Cannot decrypt data" when backup is not accessible - improve error message	N/A	440174
DC side PowerShell script account requires SeInteractiveLogonRight, or the logon will fail.	N/A	444542
Get information about computer from Backup takes too long to fail if backup access credentials are incorrect	N/A	448638
When forest domain is forest-wide replicated all DCs in forest should use its DC as primary DNS server	N/A	468637
Email notifications: SMTP authentication long password truncated after saving and reopening Recovery Manager Settings dialog	N/A	470665
Recovery Manager for Active Directory 10.3 Hotfix 2		
Online Restore Agent attempts to connect to a wrong domain controller when trying to perform an online recovery	N/A	431481
Integrity checks of collections with backups to be stored in Azure Files (SMB share) fail.	N/A	435383
RMAD console crashes during Online Restore Wizard for AD LDS (ADAM) due to large number of objects.	N/A	437753
Online restore is failing with the error: Failed to create a remote object. DCOM configuration required.	N/A	440746
Support gMSA accounts for scheduled collections when "Network access: Do not allow storage of passwords and credentials for network authentication" is enabled.	N/A	444925
Recovery Manager for Active Directory 10.3 Hotfix 1		
Cleanup CNAME DC record	RMADFE- 2746	242105
Hybrid Restore selection is not being verified in installer when remote SQL and windows creds are being used.	N/A	359203
Online Restore Wizard: "Objects to Be Processed" Add button browse not working properly	N/A	411383
New-RMADSchedule cmdlet doesn't support several weeks trigger	N/A	414124
Read zone info from inconsistent/partial registry key	N/A	419904

Resolved Issues	ID (old)	Azure DevOps
Hybrid restore may fail with the 'database is locked' error when restoring 50100 objects	N/A	424314
Apply Group Policy step hangs if root domain DNS zone is forest-wide replicated	N/A	427816
Recovery Manager for Active Directory 10.3		
Online Restore Wizard: Reporting on Unchanged Objects	N/A	377277
Incorrect email subject message after unsuccessful/incomplete recovery	N/A	406720
Computer Column - Timing column for the backup jobs to assist users in estimating job lengths	N/A	351058
When the Additional path is offline, then a job that's only using local-storage completes with a warning. With Remote Storage, the job fails with an error.	N/A	370690
ISO boot fails with a BSOD on Windows 2022 lab. To fix the issue, you need to add the latest cumulative update (any update after 7C-KB5015879) into WinRE.wim. Download the LCU September 13, 2022 — KB5017316 (OS Build 20348.1006) (microsoft.com). See the Quest Knowledge Base article KB4368806 for commands that need to be run.	N/A	376632
Online Restore Wizard Directory object not found when restoring with old 2012 R2 backup to 2019 DC	N/A	380226
Issue with install - invalid SQL hostname during install/upgrade	N/A	388182
FSMO Roles are not displayed in the recovery report after restore	N/A	376235
Tab order on SQL Installer page is wrong	N/A	397266

Security Information

Recovery Manager for Active Directory fully supports Transport Layer Security (TLS) 1.2. It is recommended that you upgrade to TLS 1.2 for secure communications.

Security Resolved Issue	ID (old)	Azure DevOps	
Recovery Manager for Active Directory 10.3.1 Hotfix 3			
Insecure SSL/TLS: bad certificate verifier - CWE-295, CWE-296, CWE-300	N/A	498948	
Recovery Manager for Active Directory 10.3			

Security Resolved Issue	ID (old)	Azure DevOps
Salting mechanism for forest recovery project and ADVL project password hashes	N/A	412667
Enforce password complexity on Forest Recovery project	N/A	253917
TLS 1.2 - Enforce in Hybrid Connect Service for communication to On Demand	N/A	384624

Known Issues

Upgrade Known Issues

Known Issue	ID (old)	Azure DevOps
When upgrading to RMAD 10.3.2, if an older version of SQL Server Express is already installed and the database exists, the version of SQL Server Express will not be upgraded by the installer. The existing database will be upgraded.	N/A	546861

General Known Issues

Known Issue	ID (old)	Azure DevOps
Backups may contain invalid FQDNs that are registered automatically, so they cannot be selected in the Forest Recovery Console. Workaround: Use the Active Directory browse method to add the DCs to a collection when creating backups, or perform backup creation for the DCs (with correct FQDN) directly. To use the Active Directory® browse method, click All Domain Controllers in the console tree, right-click a domain controller on the right pane and press Add to Collection .	RMADFE- 2851	220570
Recovery Manager for Active Directory does not show changes to GPO administrative templates in the GPO comparison report.	RMADFE- 805	220632
Group Policy restore might fail with the error "Network access is denied" if you run the RMAD console under a local account, and this account has the same username and password as the domain account you use to restore Group Policy in the domain.	RMADFE- 2162	226664

System Requirements

Before installing Recovery Manager for Active Directory, ensure that your system meets the following minimum hardware and software requirements.

Recovery Manager for Active Directory supports only IPv4 or mixed IPv4/IPv6 networks.

Recovery Manager for Active Directory requirements

Processor

Minimum: 2.0 GHz

Recommended: 2.0 GHz or faster

CPU Cores

Minimum: 2 CPU cores

Recommended: 4 CPU cores

Memory

Minimum: 4 GB

Recommended: 8 GB

These figures apply only if the Active Directory domains managed by Recovery Manager for Active Directory include 1 million objects or less. Increase RAM size by 512MB for every additional 1 million objects.

Hard disk space

Full installation including the prerequisite software: 2.7 GB of free disk space

In case all the prerequisite software is already installed: 260 MB of free disk space

NOTE | Additional storage space is required for a backup repository, at least the size of the backed-up Active Directory® database file (Ntds.dit) and the SYSVOL folder plus 40 MB for the transaction log files.

Operating system

Machine that hosts the Recovery Manager for Active Directory console must have same or higher version of Windows operating system than the processed domain controllers. Otherwise, the online compare and object search in a backup during the online restore operation may fail. 32-bit operating systems are not supported.

Installation

Microsoft Windows Server® 2025, 2022, 2019, and 2016

Targets for backup, restore, or compare operations

Microsoft Windows Server® 2025, 2022, 2019, and 2016 (including Server Core installation)

Microsoft .NET Framework

Microsoft .NET Framework version 4.8 or higher is needed on the console system.

NOTE

Microsoft .NET 4.8 is not required to be installed on the systems where the Forest Recovery and Backup agents are to be installed. The Secure Storage Agent does use .NET and it is recommended to install 4.8 on the Secure Storage system, but the agent will work with older versions.

Microsoft SQL Server and its components

Microsoft SQL Server® versions

Microsoft SQL Server® is required for the following Recovery Manager for Active Directory features: Comparison Reporting and Forest Recovery Persistence.

Supported SQL Server® versions:

 Microsoft SQL Server® 2022, 2019, 2017, 2016, and 2014 (Enterprise, Business Intelligence, Standard, Express, Web, or Developer Edition)

Microsoft SQL Server® components

Microsoft System CLR Types for SQL Server® 2014
If this component is not installed, it will be installed automatically by the RMAD setup.

Microsoft SQL Server Reporting Services

To display reports, Recovery Manager for Active Directory can integrate with Microsoft SQL Server® Reporting Services (SRSS) 2016, 2017, 2019, and 2022.

Microsoft Windows PowerShell

Microsoft Windows PowerShell® version 5.0 or later

Integration with Change Auditor for Active Directory

Supported versions of Change Auditor for Active Directory: from 6.x to 7.x.

If any prerequisite software is not installed, the Setup program automatically installs it for you before installing Recovery Manager for Active Directory. If the prerequisite software to be installed is not included in this release package, it is automatically downloaded.

Continuous recovery: From version 10.0.1, Recovery Manager for Active Directory together with Change Auditor can restore the deleted object(s) and continuously restores the last change (if any) that was made to the object attributes after creating the backup, using the data from the Change Auditor database.

Forest Recovery Agent requirements

Memory

1 GB (2 GB recommended)

Hard disk space

2 GB or more

Operating system

One of the following operating systems:

Microsoft Windows Server® 2025, 2022, 2019, and 2016 (including Server Core installation)

Secure Storage Server requirements

Processor

Minimum: 2.0 GHz

Recommended: 2.0 GHz or faster

CPU Cores

Minimum: 2 CPU Cores

Recommended: 4 CPU Cores

Memory

Minimum: 4 GB

Recommended: 8 GB

- Operating system: Microsoft Windows® 2016 or higher (including Server Core installation).
- A stand-alone server to be used as your Secure Storage server. This server should be a workgroup server and not joined to an Active Directory domain.
- An account that will be used to deploy the Storage Agent on the Secure Storage server. This
 account must also be a local Administrator on the Secure Storage server.
- Physical access to the Secure Storage server. Once the server is hardened access with regular methods will be disabled.
- Sufficient storage space on the Secure Storage server for all backup files. For one backup file, the space required is at least the size of the backed-up Active Directory® database file (Ntds.dit) and the SYSVOL folder plus 40 MB for the transaction log files.

Cloud Storage requirements

- Internet access available on the Recovery Manager for Active Directory console. A standard outbound HTTPS port 443 is used to upload data to Azure® Blob and Amazon S3 Storage.
- Azure and Amazon S3 subscription(s) to create and manage Azure and Amazon S3 Storage accounts and containers.
- A method of creating and managing Azure and Amazon S3 Storage accounts, containers, and
 policies for the storage account (lifecycle, immutability and replication policies).

VMware vCenter® / VMware ESX® Server 6.0, 6.5, 6.7, 7.0 and 8.0

- Active Directory Virtual Lab does not support conversion of Windows Server® 2019 Domain Controllers using VMWare ESXi™ / VMware vCenter® server.
- Active Directory Virtual Lab does not support VMware ESXi™ 6.0.
- VMware vCenter® Converter™ 6.2 must be installed in your environment using the Client-Server installation setup option.
- VMware vCenter® Converter™ must be accessible to the Active Directory Virtual Lab.
- If the TLS 1.0 protocol is disabled on VMware vCenter® Converter™ and VMware vCenter® servers, then switch to TLS 1.2 on the ADVL server. For more details, see the following KB articles:
 - Status of TLSv1.1/1.2 Enablement and TLSv1.0 Disablement across VMware products (2145796).
 - Microsoft Security Advisory 2960358

Password and SIDHistory Recoverability Tool

You can only use the Password and SIDHistory Recoverability Tool if Microsoft's Active Directory Recycle Bin is not enabled in your environment.

Product Licensing

The Recovery Manager for Active Directory(RMAD) license specifies the licensed number of user accounts in the Active Directory domains protected with the product. If the actual number of user accounts exceeds the licensed number, RMAD does not stop functioning but displays a warning message each time you back up data. In this case, you need to purchase and install a new license key file allowing you to back up a greater number of user accounts or revoke licenses from the domains whose backups you no longer need.

To view information about and manage the installed license key file, you can use the License tab in the **About** dialog box: in the Recovery Manager Console, right-click the Recovery Manager console tree root, and then click **About**.

Installing license key file

You need to supply a valid license key file when installing Recovery Manager for Active Directory.

To install a license key file

- In the Setup Wizard, on the User Information page, click Browse license to display the Select License File dialog box.
- 2. Locate the Quest license file (*.dlv) and click Open.

Updating license key file

If you have purchased a new license key file, use the Recovery Manager Console to update the license key file.

To update the license key file

- In the Recovery Manager Console, right-click the Recovery Manager for Active Directory console tree root, and then click About.
- In the About dialog box, click the License tab, and then click Install License File.
- In the Update License dialog box, enter the path and name of the license key file, and then click

Revoking licenses

When the actual number of user accounts exceeds the licensed number, Recovery Manager for Active Directory returns a warning message each time you back up data. In this case, you can revoke licenses from the domains whose backups you no longer need. The revoked licenses are returned to the pool of available licenses and you can allocate them to a different domain.

CAUTION

When you revoke licenses from a domain, all backups created by Recovery Manager for Active Directory for that domain get deleted. You should only revoke licenses from a domain if you no longer need backups created for that domain.

To revoke licenses from a domain

- 1. In the console tree, right-click the root node, and then click **About**.
- 2. In the About dialog box, click the **License** tab.
- 3. On the License tab, select the domain from the License Usage list, and then click Revoke.
- 4. In the confirmation message box, click Yes.

Getting Started

Upgrade and installation instructions

NOTE For Recovery Manager for Active Directory 10.1 or higher: Make sure that you use the Backup Agent version supplied with this release of Recovery Manager for Active Directory.

Recovery Manager for Active Directory(RMAD) supports a direct upgrade from version 10.1 and higher. If you have an earlier version of RMAD, the best practice is to upgrade the product to any of the supported versions, and then upgrade it to the latest version.

Alternatively, you can install the latest version of RMAD on a new clean machine and perform a full replication. The Full replication feature allows you to create a full copy of the primary Recovery Manager console settings on the new console instance. This option is supported starting from Recovery Manager for Active Directory version 9.0.1. For details, see the Full Replication section in User Guide.

For Recovery Manager for Active Directory Disaster Recovery Edition, after upgrade of Recovery Manager for Active Directory, upgrade the Secure Storage agent on the Secure Storage server to the same version. With a hardened Secure Storage server, Recovery Manager for Active Directory does not automatically upgrade the agent and this must be completed with console (physical) access to the server.

Microsoft SQL Server Express Advanced 2022 is now included with Recovery Manager for Active Directory, Microsoft SQL Server 2022 Express Advanced introduces new functionality from Microsoft that enables Customer Experience Improvement Program (CEIP) and at the same time, by default,

communicates data back to Microsoft such as IP address, username, email, and location. To disable this telemetry activity that reports back to Microsoft, follow instructions found at Configure usage and diagnostic data collection for SQL Server (CEIP)

You can review a complete list of sub-processors and our privacy policy at https://support.quest.com/subprocessor.

Additional resources

Additional information is available from the following:

- Online product documentation Support Portal
- Recovery Manager Community https://www.quest.com/community/products/recoverymanager/f/forum

Globalization

This section contains information about installing and operating this product in non-English configurations, such as those needed by customers outside of North America. This section does not replace the materials about supported platforms and configurations found elsewhere in the product documentation.

This release is Unicode-enabled and supports any character set. In this release, all product components should be configured to use the same or compatible character encodings and should be installed to use the same locale and regional options. This release is targeted to support operations in the following regions: North America, Western Europe and Latin America, Central and Eastern Europe, Far-East Asia, Japan.

Third-Party Contributions

This product contains the third-party components listed below. For third-party license information, go to https://www.quest.com/legal/third-party-licenses.aspx. Source code for components marked with an asterisk (*) is available at http://opensource.quest.com.

List of third-party contributions

Component	License or acknowledgment
7-ZIP 19.0	Copyright 1999-2019 Igor Pavlov Copyright 2015-2016 Apple Inc. All rights reserved.
AeroWizard 2.2.3	MIT 1.0
AWSSDK.Core 3.7.9.2	Apache 2.0

Component	License or acknowledgment
AWSSDK.S3 3.7.8.12	Apache 2.0
Azure.Core 1.45.0	MIT Template 2020
Azure.Core.Amqp 1.3.1	MIT Template 2020
Azure.Messaging.ServiceBus 7.18.4	MIT 1.0
Azure.Storage.Blobs 12.23.0	Template 2020
Azure.Storage.Common 12.22.0	MIT Template 2020
Boost 1.72.0	Boost 1.0
EntityFramework 6.4.4	Apache 2.0
DiscUtils 1.15.1	DiscUtils Kenneth Bell N/A
Fody 4.2.1	MIT N/A
FontAwesome.WPF 4.7.0.9	MIT N/A
Group Controls 1.8	Apache 2.0 Copyright Notice - Group Controls 1.5.3
Microsoft .Net Framework 4.8	Microsoft .Net Framework 4.8
Microsoft.Azure.Amqp 2.6.9	MIT Template 2020
Microsoft.Bcl.AsyncInterfaces 9.0.2	MIT Template 2020
Microsoft.Dism 2.0.20	MIT N/A
Microsoft.Extensions.DependencyInjecttion.Abstractions 9.0.2	MIT Template 2020
Microsoft.Extensions.Logging.Abstractions 9.0.2	MIT Template 2020
Microsoft.PowerShell.3.ReferenceAssemblies 1.0.0	MIT N/A
Microsoft.PowerShell.5.ReferenceAssemblies 1.1.0	MIT N/A
Microsoft.SqlServer.TransactSql.ScriptDom.dll 12.0.1	Microsoft Component Copyright 2002
Microsoft.SqlServer.Types 12.0.5000.0	MIT
Microsoft.Xaml.Behaviors.Wpf 1.1.19	MIT N/A
MinHook 1.3.2.1	BSD - MinHook 1.0 Copyright 2009 Tsuda Kageyu All rights reserved.
MinHook 1.3.3	BSD - MinHook 1.0 Copyright 2009 Tsuda Kageyu All rights reserved.
Newtonsoft.Json 13.0.3	MIT Template 2020
PropertyChanged.Fody 2.6.1	MIT N/A

Component	License or acknowledgment
RazorEngine 3.10.0	Apache 2.0
SQLiteCodeFirst 1.7.0.34	Apache 2.0
SSH.Net 2024.0.0 2024.0.0	MIT N/A
System.Buffers 4.6.0	MIT N/A
System.ClientModel 1.3.0	MIT Template 2020
System.Diagnostics.DiagnosticSource 9.0.2	MIT Template 2020
System.IO.Hashing 6.0.0	MIT Template 2020
System.IO.Pipelines 9.0.2	MIT Template 2020
System.Management.Automation 6.2.3	MIT Template 2020
System.Memory 4.5.5	License: MIT 1.0
System.Memory.Data 9.0.2	License: MIT 1.0
System.Numerics.Vectors 4.6.0	License: MIT 1.0
System.Runtime.CompilerServices.Unsafe 6.1.0	License: MIT Template 2020
System.Text.Encodings.Web 9.0.2	MIT Template 2020
System.Text.Json 9.0.2	MIT Template 2020
System.Threading.Channels 9.0.2	MIT Template 2020
System.Threading.Tasks.Extensions 4.6.0	MIT 1.0
System.ValueTuple 4.5.0	MIT 1.0
TaskScheduler 2.8.18	MIT
Task Scheduler Managed Wrapper 2.8.18	MIT N/A
TimeSpan Helper Library 2.2	New BSD N/A
Windows Installer XML Toolset (aka WiX) 3.14	Microsoft Reciprocal License (MS-RL) N/A
ZLib 1.1.4	zlib 1.2.3 Copyright (C) 1995-2005 Jean-loup Gailly and Mark Adler

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